What is claimed is:

A method of delivering and releasing active material comprising the steps

of:

c)

a) entraining a plurality of active material droplets within a hydrophilic matrix inside a hydrogel microbead;

b) suspending a plurality of said microbeads in a solution,

delivering said solution comprising said microbeads onto a

substrate; and

d) \ \ \allowing \ \said \ \microbeads to dehydrate.

2. The method according to claim 1 further comprising the steps of:

e) exposing said microbeads to humidity; and

f) / allowing said microbeads to rehydrate.

3. The method according to claim 1 wherein said active material is a pheromone and said hydrophilic matrix is an alginate.

The method according to claim 2 wherein said step of exposing said microbeads to humidity is performed by wetting the surfaces of said microbeads with a solution.

The method according to claim 2 wherein said step of exposing said microbeads to humidity is performed by adding moisture to the ambient air.

6. The method according to claim 2 wherein said steps d) thru f) are repeated sequentially.

7. The method according to claim 1 wherein said hydrophilic matrix is made from a polysaccharide.

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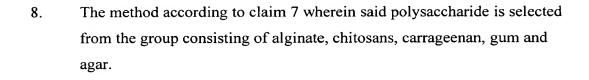
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The method according to claim 1 wherein said hydrophilic matrix is a material selected from the group consisting of polyvinyl alcohol, poly(N-isopropylacrylamide), acrylamides, acrylates, methacrylates, and combinations thereof.

10. The method according to claim 1 wherein said active material is selected from the group consisting of pheromone, mercaptan-containing compound, herbicide, pesticide, and pharmaceutical material.

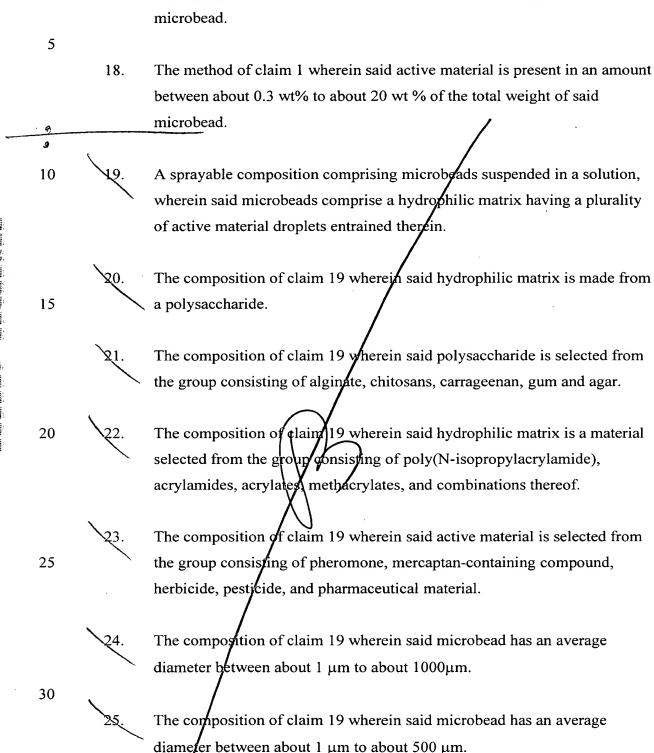
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The method according to claim 1 wherein said microbead has an average diameter between about 1 mm to about 1000 µm.

- 12. The method according to claim 1 wherein said microbead has an average diameter between about 1 μm to about 500 μm.
- 20 13. The method according to claim 1 wherein said microbead further comprises a surfactant.
 - 14. The method according to claim 1 wherein said microbead further comprises an oil absorbent.
 - 15. The method according to claim 1 wherein said microbeads further comprise an additive selected from the group consisting of preservatives, humectants, stabilizers, <u>UV protectants</u>, and combinations thereof.
- The method of claim 1 wherein said active material is present in an amount between about 0.1 wt % to about 60 wt% of the total weight of said microbead.

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The method of claim 1 wherein said active material is present in an amount

between about 0.2 wt% to about 40 wt % of the total weight of said

